CLAIMS

What is claimed is:

1. In a plasma processing system, a method of removing a set of particles from a set of structures including yttrium oxide, comprising:

exposing said set of structures to a first solution including an oxidizer for a first period;

removing said set of structures from said first solution;

exposing said set of structures to a second solution including a keytone reagent for a second period;

removing said set of structures from said second solution; and

mechanically rubbing a surface of said set of structures with a third solution including a first set of acids for a third period.

2. The method of claim 2, further including the steps of:

exposing said set of structures to a fourth solution including a second set of acids for a fourth period; and

exposing said set of structures to a fifth solution including a first set of alkalines for a fifth period.

3. The method of claim 2, wherein said step of immersing said set of structures in said first solution for a first period further includes mechanically rubbing said set of structures with an abrasive pad.

4. The method of claim 2, wherein said step of removing said set of structures from said first solution further includes rinsing said set of structures with de-ionized water.

5. The method of claim 4, further including drying said set of structures with a filtered inert gas.

6. The method of claim 5, wherein said filtered inert gas comprises nitrogen.

7. The method of claim 2, wherein said step of exposing said set of structures to said second solution for a second period further includes cleaning said set of structures ultrasonically.

8. The method of claim 2, wherein after said step of exposing said set of structures in said second solution for a second period, said set of structures are rinsed and mechanically rubbed with an alcohol.

9. The method of claim 2, wherein said step of removing said set of structures from said second solution further includes rinsing said set of structures with de-ionized water.

10. The method of claim 9, further including drying said set of structures with a filtered inert gas.

11. The method of claim 10, wherein said filtered inert gas comprises nitrogen.

12. The method of claim 11, wherein said step of removing said set of structures from said third solution further includes rinsing said set of structures with de-ionized water.

13. The method of claim 12, further including drying said set of structures with a filtered inert gas.

14. The method of claim 13, wherein said filtered inert gas comprises nitrogen.

15. The method of claim 2, wherein said step of removing said set of structures from said forth solution further includes rinsing said set of structures with de-ionized water.

16. The method of claim 15, further including drying said set of structures with a filtered inert gas.

17. The method of claim 16, wherein said filtered inert gas comprises nitrogen.

18. The method of claim 11, wherein said step of removing said set of structures from said fifth solution further includes rinsing said set of structures with de-ionized water.

19. The method of claim 15, further including drying said set of structures with a filtered inert gas.

20. The method of claim 16, wherein said filtered inert gas comprises nitrogen.

21. The method of claim 2, wherein said oxidizer comprises H_2O_2.

22. The method of claim 2, wherein said second solution comprises H_2O_2.

23. The method of claim 22, wherein said H_2O_2 comprises from about 10% to about 30% of said second solution.

24. The method of claim 22, wherein said H_2O_2 comprises from about 20% to about 30% of said second solution.

25. The method of claim 22, wherein said H_2O_2 comprises about 30% of said second solution.

26. The method of claim 2, wherein said first period comprises 30 minutes.

27. The method of claim 2, wherein said keytone reagent comprises acetone.

28. The method of claim 2, wherein said second period comprises 5 minutes.

29. The method of claim 2, wherein said third solution comprises H_2O_2.

30. The method of claim 2, wherein said first set of acids comprises HF.

31. The method of claim 30, wherein said HF comprises from about 2% to about 33% of said third solution.

32. The method of claim 30, wherein said HF comprises from about 2% to about 25% of said third solution.

33. The method of claim 30, wherein said HF comprises of about 2% of said third solution.

34. The method of claim 2, wherein said first set of acids comprises HNO_3.

35. The method of claim 34, wherein said HNO_3 comprises from about 2% to about 33% of said third solution.

36. The method of claim 34, wherein said HF comprises from about 2% to about 25% of said third solution.

37. The method of claim 34, wherein said HF comprises of about 2% of said third solution.

38. The method of claim 2, wherein said third period comprises 1 minute.

39. The method of claim 2, wherein said forth solution comprises H_2O.

40. The method of claim 2, wherein said second set of acids comprises CH_3COOH.

41. The method of claim 40, wherein said CH_3COOH. comprises from about 2% to about 10% of said forth solution.

42. The method of claim 40, wherein said CH_3COOH. comprises from about 2% to about 6% of said forth solution.

43. The method of claim 40, wherein said CH_3COOH. comprises of about 4% to about 5% of said forth solution.

44. The method of claim 2, wherein said forth period comprises 10 minutes.

45. The method of claim 2, wherein said forth solution comprises H_2O_2.

46. The method of claim 2, wherein said first set of alkalines comprises NH_4OH.

47. The method of claim 46, wherein said NH_4OH comprises from about 8% to about 33% of said fifth solution.

48. The method of claim 46, wherein said NH_4OH comprises from about 6% to about 33% of said fifth solution.

49. The method of claim 46, wherein said NH_4OH comprises of about 25% of said fifth solution.

50. The method of claim 2, wherein said forth solution comprises H_2O_2.

51. The method of claim 50, wherein said H_2O_2 comprises from about 8% to about 33% of said fifth solution.

52. The method of claim 50, wherein said H_2O_2 comprises from about 6% to about 33% of said fifth solution.

53. The method of claim 50, wherein said H_2O_2 comprises of about 25% of said fifth solution.

54. The method of claim 2, wherein said fifth period comprises 10 minutes.

55. In a plasma processing system, a method of removing a set of particles from a set of structures including yttrium oxide, comprising:

exposing said set of structures to a first solution including a keytone reagent for a first period;

removing said set of structures from said first solution;

exposing said set of structures to a second solution including an oxidizer for a second period;

removing said set of structures from said second solution; and

mechanically rubbing a surface of said set of structures with a third solution including a first set of acids for a third period.

56. The method of claim 55, further including the steps of:

exposing said set of structures to a fourth solution including a second set of acids for a fourth period; and

exposing said set of structures to a fifth solution including a first set of alkalines for a fifth period.

57. In a plasma processing system, a method of removing a set of particles from a set of structures including yttrium oxide, comprising:

exposing said set of structures to a first solution including an oxidizer for a first period;

exposing said set of structures to a second solution including a first set of alkalines with said oxidizer for a second period;

removing said set of structures from said second solution; and

mechanically rubbing a surface of said set of structures with said third solution including a first set of acids for a third period.

58. The method of claim 57, further including the step of exposing said set of structures to a solution including a second set of acids for a fourth period.